

ABSTRACT

An optical device that can be used in a range of telecommunications applications including optical multiplexers/demultiplexers and optical routers. The optical device splits and combines optical signals of frequency division multiplexed optical communication channels that are evenly spaced apart in frequency from one another. The optical device includes a first filter and a second filter. The first filter splits and combines odd and even channels depending on the propagation direction of the optical signal. The first filter exhibits complementary phase retardations corresponding with odd integer multiples of half a wavelength for each center wavelength associated with a selected one of the odd and even set of channels and with integer multiples of a full wavelength of each center wavelength associated with a remaining one of the odd set and the even set. The second filter couples with the first filter to filter the odd and even sets of channels with phase retardations complementary to those experienced by the odd and even set of channels in the first filter. This complementary filtration has the effect of reducing dispersion in the device.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

W:\15436\249.9.1\BLM0000001582V001.doc